

**THE IMPACT OF MIND MAPPING TECHNIQUE ON STUDENTS'  
READING COMPREHENSION AND MOTIVATION**

**(Undergraduate Thesis)**

**By**

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## ABSTRACT

### THE IMPACT OF MIND MAPPING TECHNIQUE ON STUDENTS' READING COMPREHENSION AND MOTIVATION

*By*

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This study investigates the impact of the mind mapping technique on students' reading comprehension and English learning motivation in reading descriptive texts. The research employed a quantitative approach using a one-group pre-test and post-test design. The participants of this study were 32 eighth-grade students of SMP Muhammadiyah 3 Bandar Lampung in the academic year 2025/2026. The instruments used in this study were a reading comprehension test consisting of 25 multiple-choice items and a motivation questionnaire consisting of 20 statements.

The results of the study show that the implementation of the mind mapping technique significantly improved students' reading comprehension. The mean score increased from 54.94 in the pre-test to 69.50 in the post-test. The result of the paired sample t-test showed a statistically significant difference between the pre-test and post-test scores with Sig. (2-tailed) = 0.000 ( $p < 0.05$ ). However, the results of the motivation questionnaire indicated that there was no statistically significant difference in students' motivation after the treatment. The mean score of motivation slightly decreased from 3.18 in the pre-test to 3.17 in the post-test. The paired sample t-test showed that the significance value was 0.829 ( $p > 0.05$ ), indicating that the difference was not statistically significant. Nevertheless, the overall motivation level of students remained in the high category.

Based on these findings, it can be concluded that the mind mapping technique is effective in improving students' reading comprehension, although it did not significantly affect students' motivation. Therefore, this technique is recommended as an alternative strategy for teaching reading, especially descriptive texts, at the junior high school level.

***Keywords: Reading Comprehension, Learning Motivation, Mind Mapping Technique, Descriptive Text,***

## ABSTRAK

### PENGARUH TEKNIK MIND MAPPING TERHADAP PEMAHAMAN MEMBACA DAN MOTIVASI BELAJAR SISWA

*By*

**Dita Lutfiah Puspa Dewi**

Penelitian ini bertujuan untuk mengetahui pengaruh teknik *mind mapping* terhadap pemahaman membaca dan motivasi belajar bahasa Inggris siswa dalam membaca teks deskriptif. Penelitian ini menggunakan pendekatan kuantitatif dengan desain *one-group pre-test and post-test*. Partisipan dalam penelitian ini adalah 32 siswa kelas VIII SMP Muhammadiyah 3 Bandar Lampung tahun ajaran 2025/2026. Instrumen yang digunakan dalam penelitian ini adalah tes pemahaman membaca yang terdiri dari 25 soal pilihan ganda dan angket motivasi yang terdiri dari 20 pernyataan.

Hasil penelitian menunjukkan bahwa penerapan teknik *mind mapping* secara signifikan meningkatkan pemahaman membaca siswa. Nilai rata-rata meningkat dari 54,94 pada *pre-test* menjadi 69,50 pada *post-test*. Hasil uji *paired sample t-test* menunjukkan adanya perbedaan yang signifikan antara nilai *pre-test* dan *post-test* dengan nilai Sig. (2-tailed) = 0,000 ( $p < 0,05$ ). Namun, hasil angket motivasi menunjukkan bahwa tidak terdapat perbedaan yang signifikan secara statistik pada motivasi siswa setelah perlakuan. Nilai rata-rata motivasi sedikit menurun dari 3,18 pada *pre-test* menjadi 3,17 pada *post-test*. Hasil uji *paired sample t-test* menunjukkan nilai signifikansi sebesar 0,829 ( $p > 0,05$ ), yang berarti perbedaan tersebut tidak signifikan secara statistik. Meskipun demikian, tingkat motivasi siswa secara keseluruhan tetap berada pada kategori tinggi.

Berdasarkan temuan tersebut, dapat disimpulkan bahwa teknik *mind mapping* efektif dalam meningkatkan pemahaman membaca siswa, meskipun tidak memberikan pengaruh yang signifikan terhadap motivasi siswa. Oleh karena itu, teknik ini direkomendasikan sebagai salah satu alternatif strategi dalam pembelajaran membaca, khususnya teks deskriptif, di tingkat sekolah menengah pertama.

***Kata kunci: Pemahaman Membaca, Motivasi Belajar, Teknik Mind Mapping, Teks Deskriptif.***

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**By**

**Dita Lutfiah Puspa Dewi**

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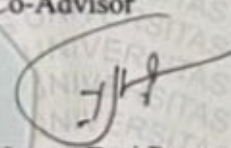
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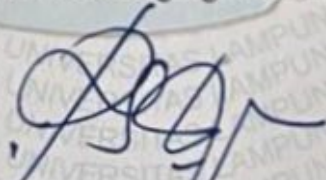
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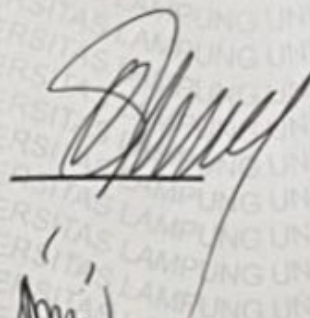


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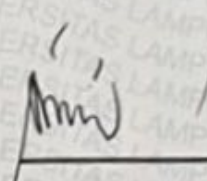
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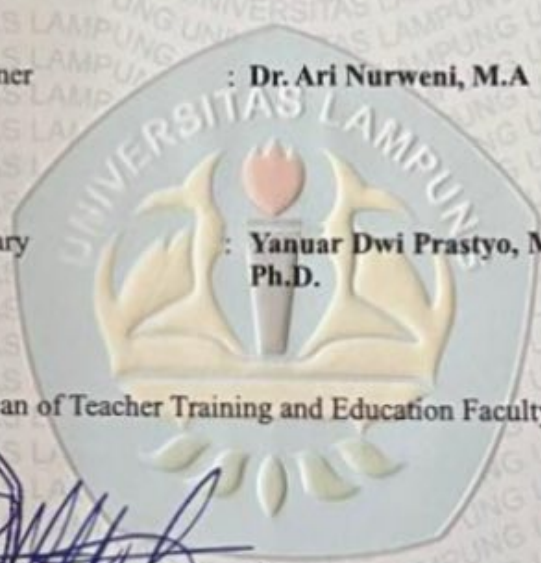
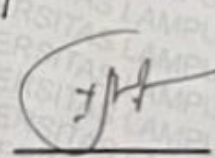
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Menyatakan bahwa skripsi ini adalah karya dari pelaksanaan penelitian saya sendiri. Sepanjang pengetahuan saya, karya ini tidak berisi materi yang ditulis orang lain, kecuali bagian-bagian tertentu yang saya gunakan sebagai acuan. Apabila ternyata terbukti bahwa pernyataan ini tidak benar, sepenuhnya menjadi tanggung jawab saya.

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## CURRICULUM VITAE

**Dita Lutfiah Puspa Dewi** was born in Metro on May 26, 2004. She is the youngest of two siblings. She is an undergraduate student of the English Education Study Program at the University of Lampung.

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During her undergraduate study, she actively participated in various academic and organizational activities. She has a strong interest in organizational involvement and leadership. In 2024, she served as the Vice President of SEEDS (Society of English Education Department Students), where she contributed to organizing academic programs, student development activities, and collaborative events within the English Education Department.

She also participated in the Community Service Program (KKN) in Tulang Bawang in 2025. In addition, she completed her Teaching Practice Program (PLP) at SDN 1 Sukarame for one month, where she gained practical teaching experience and developed her classroom management and instructional skills.

To fulfill the requirement for her undergraduate degree, she conducted research entitled “The Impact of Mind Mapping Technique on Students’ Reading Comprehension and Motivation.” The study employed a quantitative approach using a one-group pre-test and post-test design involving eighth-grade students of junior high school. The research focused on examining the effectiveness of the mind mapping technique in improving students’ reading comprehension and enhancing their motivation in learning English, particularly in reading descriptive texts.

Her academic interests include reading comprehension, learning motivation, mind mapping in language learning, and English teaching methodology. She aspires to contribute to the development of innovative, engaging, and student-centered English learning environments.

## **MOTTO**

“Everyone has their own path in life. You are not behind anyone, and you are not ahead of anyone.”

(QS.Al-Insyirah, 6-8)

“Tak ada yang tahu kapan kau mencapai tuju dan percayalah bukan urusanmu untuk menjawab itu”

(Hindia - Besok Mungkin Kita Sampai)

## **DEDICATION**

By the name of Allah Subhanahu Wa Ta'ala, who always blesses the researcher's life and grants her strength, the researcher would like to wholeheartedly dedicate this humble work to her beloved parents, brother, sisters, relatives, and friends for their endless love, prayers, and support.

This work is also dedicated to the outstanding lecturers of the English Department, University of Lampung, for their valuable knowledge and guidance.

The researcher also dedicates this work to her beloved almamater, the University of Lampung, to all hardworking teachers who continue to inspire students, and finally to herself for the perseverance and effort in completing this research.

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This thesis is submitted as one of the requirements to obtain the Bachelor’s Degree in Education at the Faculty of Teacher Training and Education, University of Lampung.

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Finally, the researcher realizes that this thesis is still far from perfect. Therefore, constructive criticism and suggestions are highly appreciated for the improvement of this research. Hopefully, this thesis can give positive contributions to the development of English education and be useful for readers and future researchers.

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## I. INTRODUCTION

This chapter presents an introduction concerning the background of the research, research question, objectives, uses of the research, the scope of the research, and definition of terms.

### 1.1. Background of Research

In today's educational landscape, reading is recognized as one of the most crucial skills for students, enabling them to acquire information and knowledge effectively. It plays a significant role in the process of learning English, particularly for junior high school students. According to Ningsih (2018), reading is a fundamental skill that assists students in understanding meanings, interpreting messages, and gaining valuable knowledge. The primary goal of reading instruction is to equip students with competent reading comprehension skills. Reading comprehension, as defined by Smith (1997), is an active process where the learner interprets and modifies a text to suit their ability and prior knowledge. Grellet (1995) further elaborates it as the ability to grasp the meaning of written text and efficiently extract main ideas. Essentially, reading comprehension involves using prior knowledge to construct the meaning of a text (Lipson & Wixson, 2009), encompassing understanding vocabulary, sentences, and paragraphs, and recognizing their interrelationships (Durkin & Dolores, 1995). In the context of learning English as a foreign language, reading serves not only as a means of acquiring information but also as a gateway to better understanding global communication.

Moreover, reading is intricately linked to the development of other language skills, including vocabulary acquisition, grammar awareness, and writing proficiency (Laila et al., 2024). However, despite its importance, many junior high school students often

exhibit low motivation towards English learning, particularly in reading activities. This problem was identified through preliminary observations at SMP Muhammadiyah 3 Bandar Lampung during the 2025/2026 academic year, where students showed limited engagement in reading tasks and consistently scored below the Minimum Completeness Criteria (KKM) in reading comprehension assessments. Further discussions with the English teacher confirmed that students frequently perceive English reading as tedious, challenging, and disconnected from their lives, which leads to a lack of interest and active participation in reading tasks.

Motivation is a critical component of second language acquisition. Kheang et al. (2024) assert that motivated learners are more likely to engage in learning activities and strive to comprehend the material. Specifically, reading motivation significantly influences how students interact with texts, the duration of their engagement, and their overall understanding of the content. Unfortunately, students often encounter obstacles such as lengthy and complex texts, unfamiliar vocabulary, and abstract concepts, which can render reading frustrating and diminish their motivation to learn.

To address these challenges, teachers should implement innovative and interactive teaching methods that facilitate students' understanding of texts while enhancing their interest and motivation. One such method is the mind mapping technique, a visual learning strategy that allows students to represent information through diagrams, keywords, colors, and images. This technique aids students in identifying main ideas and supporting details in a more engaging and memorable manner. According to Buzan (2011), mind mapping can enhance comprehension and retention by stimulating both the logical and creative areas of the brain.

Mind mapping is particularly beneficial in reading classes, especially when teaching descriptive texts, as it transforms abstract information into easily comprehensible visual representations. Previous studies have consistently highlighted the effectiveness of mind mapping in various aspects of English language teaching. For

instance, Mohaidat (2018) found that electronic mind maps significantly improved reading comprehension among ninth-grade students, attributing the success to the visual organization of ideas and the engagement of both brain hemispheres. Similarly, Liando et al. (2022) demonstrated that the mind mapping technique was effective in improving students' reading skills, enabling them to better understand and retell texts. Furthermore, Sari et al. (2021) explored the use of inquiry mind maps and found a positive impact on both critical thinking skills and learning motivation, although their study primarily focused on science learning and utilized qualitative measures for motivation.

While these studies provide strong evidence for the benefits of mind mapping in enhancing reading comprehension and, to some extent, motivation, there remains a notable gap in the literature. Specifically, there is a scarcity of research that quantitatively investigates the direct impact of mind mapping on English learning motivation in the context of reading descriptive texts, particularly at the junior high school level. Most existing studies on motivation in this area tend to employ qualitative approaches, leaving a need for quantitative data to solidify the correlation. This research is therefore crucial as it aims to bridge this gap by quantitatively exploring the simultaneous impact of teaching reading descriptive texts through the mind mapping technique on improving reading comprehension and English learning motivation among 8th-grade junior high school students.

## **1.2. Research Questions**

In line with the background above, the researcher formulated the research questions as follows:

1. Is there a significant impact of using the mind mapping technique in teaching reading on students' reading comprehension at the eighth grade of junior high school?

2. Is there a significant impact of using the mind mapping technique in teaching reading on students' motivation to learn English at the eighth grade of junior high school?

### **1.3. Objectives**

In relation to the research questions above, the objectives of this research are:

1. To investigate whether there is a significant impact of using the mind mapping technique in teaching reading on students' reading comprehension at the eighth grade of junior high school.
2. To examine whether there is a significant impact of using the mind mapping technique in teaching reading on students' motivation to learn English at the eighth grade of junior high school.

### **1.4. Uses of the Research**

This research has advantages for certain circumstances or further study both theoretically and practically. The uses of this research are:

1. Theoretically, This research aligns with previous studies on the application of learning strategies to enhance students' motivation in learning English, particularly in reading descriptive texts. Additionally, the researcher hopes that the results will serve as a reference for future research on the use of mind mapping in English language teaching and its effects on learning motivation.
2. Practically, The outcomes of this research should be beneficial for English teachers as an alternative teaching method to enhance students' participation and interest in reading descriptive texts. Furthermore, it may positively impact students, enabling them to enjoy the reading process and better comprehend the materials through visual learning techniques like mind mapping.

### **1.5. Scope of the Research**

This research aims to investigate the impact of the mind mapping technique on two main areas: students' reading comprehension and their motivation to learn English. The study is conducted among eighth-grade students of a junior high school during the 2025/2026 academic year.

In terms of reading comprehension, the scope is narrowed to five key aspects: identifying the main idea, understanding vocabulary in context, finding specific information, making inferences, and identifying reference words. These components are assessed through a multiple-choice reading test designed to evaluate students' ability to comprehend descriptive texts. The descriptive texts used in this study are centered on the theme of describing animals, which is considered relevant and engaging for junior high school learners.

Furthermore, the research also examines students' motivation to learn English, particularly in reading activities. Motivation is measured using a 20-item closed-ended statements on a 4-point Likert scale. The questionnaire is grouped into three dimensions of motivation: Intrinsic Motivation, Extrinsic Motivation, Motivation through Mind Mapping.

These categories reflect the affective components of learning and are analyzed to determine the extent to which the mind mapping technique influences students' enthusiasm, engagement, and interest in learning English through reading.

Overall, this study is delimited by its focus on two dependent variables reading comprehension and learning motivation within the specific context of reading descriptive texts about animals using the mind mapping technique.

### **1.6. Definition of Terms**

To minimize misunderstandings in this research, the following terms are defined:

1. Mind Mapping Technique refers to a visual learning strategy that uses diagrams to represent ideas, words, tasks, or concepts organized around a central theme. It helps students structure information and improve their understanding and recall.
2. Descriptive Text refers to a type of text that provides detailed information about a person, place, object, or event. It aims to help the reader visualize what is being described through the use of vivid and specific language.
3. Reading Comprehension is the ability to process, understand, and interpret written texts. In this study, it refers to students' ability to identify main ideas, supporting details, and the overall meaning of descriptive reading materials in English.
4. English Learning Motivation is the internal drive or passion that encourages students to learn English. It encompasses students' interest, effort, and positive attitudes towards learning English, particularly in reading descriptive texts.

## **II. LITERATURE REVIEW**

This chapter presents the theoretical foundation relevant to this study, including the concept of reading, reading comprehension, reading motivation, mind mapping technique, previous study and theoretical framework. It consists of the following sub-topics: previous studies, concept of reading, reading comprehension, reading motivation, concept of mind mapping, mind mapping in English language teaching, advantages and disadvantages of mind mapping, theoretical framework, and hypothesis.

### **2.1. Concept of Reading**

Reading is recognized as one of the four essential language skills, alongside listening, speaking, and writing. In the context of English language learning, reading plays a critical role not only in academic development but also in supporting learners' overall language proficiency. It provides access to a wide range of vocabulary, grammatical structures, and conceptual knowledge that contributes to cognitive and linguistic growth.

Reading is not a simple activity of recognizing letters and words; rather, it is a complex cognitive process that requires the integration of multiple mental operations. Grabe and Stoller (2002) describe reading as an interaction between the reader and the text, in which meaning is actively constructed. It involves the coordination of perceptual, linguistic, and conceptual skills, and engages the reader in an ongoing negotiation of meaning based on textual information and background knowledge.

According to Urquhart and Weir (1998), reading is an interactive process that goes beyond decoding written symbols. Effective readers actively apply their prior knowledge (schema) to interpret, evaluate, and integrate new information presented

in the text. This interaction makes reading a dynamic and purposeful process in which comprehension is the ultimate goal. In this sense, reading is also a purposeful act conducted to obtain information, explore ideas, reflect critically, and expand knowledge. From a cognitive perspective, reading involves a series of mental actions such as decoding, inference-making, prediction, synthesizing information, and integrating new ideas with existing knowledge. These processes happen simultaneously and unconsciously in fluent readers, but may require explicit instruction and scaffolding in the classroom setting, particularly for EFL learners.

### ***2.2.1. The Stages of Reading***

To facilitate better reading instruction, Williams (1984) proposed a three-stage framework that organizes reading activities into pre-reading, while-reading, and post-reading. This model has been widely adopted in language teaching as it supports learners through structured engagement with texts.

#### 1. Pre-reading Stage

The pre-reading phase is designed to activate students' background knowledge and stimulate interest in the topic. Activities in this stage may include discussing prior experiences, predicting content based on titles or images, brainstorming related vocabulary, or previewing key concepts. This phase helps students prepare cognitively and emotionally for the reading task, increasing their motivation and readiness.

#### 2. While-reading Stage

In this stage, students engage directly with the text to construct meaning. Teachers guide learners to focus on comprehension through tasks such as skimming for main ideas, scanning for specific details, answering guiding questions, completing graphic organizers, or taking notes. This is the core phase where the actual reading and meaning-making occur.

#### 3. Post-reading Stage

The post-reading stage aims to consolidate understanding, extend thinking, and connect the information from the text to broader contexts. Typical activities include summarizing, reflecting, discussing key points, evaluating content, or transforming information into other formats such as diagrams, mind maps, or presentations. This stage is crucial for reinforcing learning and encouraging deeper processing of the text.

In conclusion, reading is a multidimensional process that requires more than just decoding written symbols. It is an active, purposeful, and interactive activity that integrates cognitive, linguistic, and experiential factors. Effective reading instruction must therefore consider the mental processes involved, provide opportunities for interaction with the text, and follow structured stages to support comprehension and engagement. By understanding how reading works as a process, educators can better design interventions and strategies such as mind mapping that assist learners in becoming more proficient and motivated readers.

## **2.2. Reading Comprehension**

Reading comprehension is widely recognized as the ultimate goal of reading. It refers to the ability to understand, interpret, and construct meaning from written text. This skill goes beyond mere recognition of words or phrases; rather, it involves complex mental processes that integrate the reader's previous knowledge, personal experience, linguistic competence, and cognitive strategies to draw meaning from the text (Grabe & Stoller, 2002). Effective comprehension is not only important for academic success but also for communication in real life and critical thinking.

Grabe and Stoller (2002) identify several key components of reading comprehension that are particularly relevant to understanding descriptive texts. These components include:

1. Determining the Main Idea

This refers to the reader's skill in identifying the main idea or most essential information that the writer wants to convey. Identification of the main idea for connecting supporting details. In descriptive texts, this may involve identifying the subject being described and the main features being emphasized.

## 2. Finding Specific Information

Readers are often asked to find facts, data, or supporting details embedded in the text. This involves scanning for specific information such as characteristics, locations, or sensory attributes. In descriptive texts, this skill allows readers to extract the appropriate descriptive elements and construct a detailed mental picture of the topic.

## 3. Making Inferences

Inference-making is a higher-order cognitive skill that involves drawing logical conclusions based on implicit information. Rather than relying solely on explicitly stated ideas, readers must use contextual clues and prior knowledge to infer meaning. In the context of descriptive texts, students are expected to infer relationships between characteristics or the emotions associated with the description.

## 4. Identifying References

Drawing logical conclusions from unconscious knowledge is a higher-order cognitive skill known as inference-making. Readers must use contextual cues and past knowledge to deduce meaning rather than depending just on concepts that are expressed directly. Students are expected to deduce connections between traits or the feelings connected to the description in the context of descriptive writings.

## 5. Understanding Vocabulary in Context

Vocabulary knowledge plays a significant role in reading comprehension, particularly in descriptive texts which often use varied and vivid language. Readers must be able to deduce the meaning of unfamiliar words using contextual clues and background knowledge. This skill enhances the reader's ability to interpret nuances and imagery within the text.

According to Nuttall (2005), mastering these aspects of reading comprehension is essential not only for academic achievement but also for real-world communication and intellectual development. Students who are proficient in these five areas are better equipped to analyze and synthesize information, engage with multiple perspectives, and apply their understanding in various contexts. Teaching reading comprehension, particularly for descriptive texts, should therefore be regarded as a crucial component of English language education. Through the use of effective instructional strategies, such as mind mapping, educators can support students in visualizing text structures, organizing information logically, and fostering deeper understanding. Moreover, these strategies can increase students' engagement and motivation, ultimately promoting a more positive attitude toward reading.

### **2.3. Motivation in Learning Reading**

Motivation is a central component in the language learning process, especially in reading comprehension. It determines how much energy and persistence learners invest when interacting with texts. In the Indonesian EFL context, Setiyadi, Mahpul, and Wicaksono (2019) proposed a culturally grounded framework of motivational orientations that provides a more relevant understanding of students' reasons for learning English.

Extrinsic orientation refers to motivation driven by tangible outcomes, such as achieving high scores, passing exams, or obtaining good jobs. Students with this orientation read because it leads to external rewards. On the other hand, intrinsic orientation involves motivation that comes from within the learner, such as reading

for enjoyment, self-development, or personal satisfaction. Meanwhile, international orientation emerges as a significant third factor in the Indonesian context. It reflects students' desire to use English as a global communication tool, allowing them to connect with people from diverse backgrounds, understand other cultures, and engage in international discourse not necessarily with native speakers but with a global community of English users.

These motivational orientations are particularly relevant in the context of teaching reading, as they influence the depth and quality of learners' engagement with texts. Students who read solely for grades may approach reading tasks superficially, while those who are intrinsically or internationally oriented tend to interact with the material more meaningfully. However, in practice, many junior high school students still perceive reading especially in English as a burdensome task. This perception leads to a lack of motivation, poor concentration, and limited comprehension.

To overcome these motivational barriers, it is essential to implement teaching strategies that not only support reading comprehension but also foster students' motivation across the three orientations identified by Setiyadi et al. (2019). One such strategy is the use of the mind mapping technique. By presenting information visually and allowing students to organize content based on their understanding, mind mapping appeals to various motivational drivers. It enables students to see the relevance of the text, engage creatively, and develop a stronger sense of control over their learning process. These characteristics are aligned with the internal satisfaction found in intrinsic motivation and the goal-directed purpose found in international orientation.

Furthermore, mind mapping helps students to structure ideas clearly, making reading less overwhelming and more accessible. This structured and student-centered method may also contribute to enhanced performance in reading assessments, thus supporting extrinsic motivation. The combination of visual clarity, learner autonomy, and relevance to global contexts positions mind mapping as a powerful tool for stimulating all three types of motivation.

Therefore, adopting Setiyadi et al.'s motivational theory as a framework allows this study to assess not only the cognitive impact of the mind mapping technique on reading comprehension but also its affective influence on students' motivation. By evaluating changes in students' intrinsic, extrinsic, and international orientations before and after the intervention, this research aims to demonstrate how an engaging instructional strategy like mind mapping can transform students' reading experiences and foster sustained motivation in the EFL classroom.

#### **2.4. Mind Mapping**

Mind mapping is a cognitive tool designed to help learners organize and represent information visually. Developed by Tony Buzan, mind mapping mimics the natural workings of the human brain, which processes information through connections and associations rather than in linear form. According to Buzan (2011), mind mapping is a graphic technique that uses keywords, colors, lines, and images to create a central idea from which related concepts radiate outward. This structure allows learners to see the relationships between ideas clearly and to develop a holistic understanding of complex information.

The layout of a mind map begins with a central theme placed in the middle of the page. From this center, branches extend outward, each representing a major sub-topic or concept. These branches may further divide into secondary and tertiary ideas, forming a tree-like structure. Visual elements such as symbols, colors, and images are often used to enhance memory retention and to make the learning process more engaging.

Widiyono (2021) supports this by emphasizing that mind mapping engages both the left hemisphere of the brain, which handles logic, language, and order, and the right hemisphere, responsible for creativity, visualization, and emotion. This dual-brain engagement promotes a deeper and more integrated learning experience. The process of constructing a mind map activates various cognitive functions including analysis,

synthesis, categorization, and imagination, which in turn enhances comprehension, long-term memory, and critical thinking skills.

Mind mapping is also aligned with constructivist learning principles, as it encourages learners to build and connect knowledge based on prior experiences. Rather than passively receiving information, students actively create their own representations of learning materials, making the process more meaningful and memorable.

According to Buzan & Buzan (1996), mind mapping is effective across disciplines and age levels. It can be used for brainstorming, planning, summarizing, note-taking, and problem-solving. In education, mind mapping has proven particularly helpful for visual learners who benefit from organizing ideas spatially. Furthermore, because of its flexibility, mind mapping can be adapted to suit different learning styles, making it an inclusive and learner-friendly technique. Rose and Malcolm (2006) add that mind mapping facilitates visual memory by associating information with color and spatial arrangement, which enhances the speed and accuracy of recall. When used in reading instruction, mind maps can help students break down texts into key ideas, track character development, outline text structure, and generate summaries.

In essence, mind mapping is more than a note-taking method; it is a learning strategy that transforms abstract information into concrete, interconnected visuals. It helps students not only to remember what they learn but also to understand how concepts relate to one another, thereby supporting deeper learning and cognitive development.

#### ***2.4.1. Advantages of Mind Mapping Technique***

The two objectives of this study improving students' reading comprehension and boosting their enthusiasm to learn English, especially while reading descriptive texts are directly supported by the mind mapping technique's many pedagogical benefits. As previously mentioned, junior high school students frequently have trouble comprehending texts and maintaining their interest in reading activities. By providing an organized and innovative method of information processing, mind mapping simultaneously tackles both problems.

### 1. Enhancing Reading Comprehension

Students can better comprehend descriptive writings by using mind mapping to dissect and visualize a text's structure. Students can better understand and remember the content by using branches and keywords to identify the main idea and supporting facts. The five fundamental components of reading comprehension covered in this study identifying the primary idea, comprehending terminology in context, discovering particular material, drawing conclusions, and identifying references—are supported by this method, which is consistent with schema theory. Therefore, instead of reading passively, mind mapping allows pupils to actively engage with readings.

### 2. Increasing Learning Motivation

Many students perceive reading as a tedious and difficult activity. Mind mapping transforms reading into a more engaging experience by involving creativity, color, and imagery. Self-Determination Theory (Deci & Ryan, 2000) states that when students feel competent, independent, and connected, they are more driven. By allowing students to take charge of how they interpret and portray the information, mind mapping promotes these conditions. This visual method increases intrinsic motivation and reading engagement by fostering enjoyment and a sense of achievement.

### 3. Aiding Memory Retention and Critical Thinking

The technique trains students to synthesize information and connect concepts, which supports long-term memory. By requiring students to classify and assess data while creating their mind maps, it also promotes critical thinking. When reading materials that call for interpretation, like descriptive writings, where students must see and comprehend the subject matter, this is very helpful.

#### ***2.4.2. . Disadvantages of Mind Mapping Technique***

The mind mapping method has numerous benefits, but it also has some drawbacks that should be taken into account, particularly when using it with varied learners who have different interests and abilities.

1. Requires Time and Training

For students who are unfamiliar to visual learning strategies, creating mind maps may feel confusing or time-consuming at first. Without proper guidance and clear examples, they may struggle to identify important information or organize it effectively. This can reduce efficiency and potentially frustrate students, especially if the activity is rushed or overly complicated.

2. May Oversimplify Complex Information

Even though mind mapping encourages simplification and clarity, this method can sometimes oversimplify content that requires in-depth analysis or sequential understanding. Descriptive text, while generally easy to understand, still contains abstract ideas or complex vocabulary that is difficult to represent visually. For this reason, mind mapping needs to be accompanied by other comprehension strategies for optimal outcome.

3. Risk of Misuse or Off-Task Behavior

In mind mapping and other creative activities, students may focus too much on the decorative aspects (e.g., drawing, coloring) and neglect the actual content. The teacher needs to monitor and guide students to ensure that mind maps remain a tool for understanding, not just for self-expression.

## **2.5. Mind Mapping in English Language Teaching**

Mind mapping has demonstrated considerable success in various areas of English Language Teaching (ELT), especially in the development of reading and writing skills. It functions not only as a cognitive tool to organize information but also as a method

that enhances students' understanding, creativity, and engagement with English texts. In the context of reading instruction, mind mapping helps students to analyze the structure of texts, identify main and supporting ideas, and visually represent the relationships among concepts. According to Zhou et al. (2023), their implementation of the 3-Step Mind Map Approach enabled students to navigate through complex reading materials more effectively. The approach emphasized identifying key information, structuring it hierarchically, and representing it visually, which encouraged analytical thinking and improved overall comprehension.

This visual method proves especially beneficial when teaching descriptive and narrative texts. For instance, a tree map can be employed to categorize descriptive elements such as people, places, or objects based on attributes, while a mountain map is effective for outlining the sequence of events in a narrative. These tools help learners to decode textual elements more systematically, reduce cognitive overload, and support long-term retention.

Dewi Nopita et al. (2021) found that mind mapping had a significant impact on students' engagement during English reading sessions. Students reported greater enjoyment and clarity when learning vocabulary and content through mind maps, particularly in descriptive texts. The visual layout helped them remember adjectives and descriptive phrases by linking words to mental images and organized categories.

Additionally, electronic mind mapping has expanded the applicability of this method in modern classrooms. As Samonlux and Yimwilai (2020) highlighted, digital tools allowed students to manipulate, store, and revise mind maps easily. The flexibility and interactivity of electronic mind maps increased motivation and catered to diverse learning preferences, particularly among students who are more digitally inclined.

Zebua (2022), in a classroom action research conducted at SMK N 1 Gunungsitoli Barat, also confirmed the effectiveness of mind mapping in improving reading comprehension through narrative texts. The study reported improvements in

identifying main ideas, understanding plot structures, and interpreting meanings when mind mapping was integrated into the learning process.

Mind mapping also contributes significantly to writing instruction. It aids in pre-writing activities such as brainstorming, organizing content, and outlining essays or paragraphs. By enabling learners to visually sequence their thoughts, mind maps reduce writing anxiety and enhance coherence and cohesion in students' writing.

According to Widiyono (2021), mind mapping encourages learners to explore language creatively and logically, which is especially important in English learning contexts where students often struggle to connect grammar, vocabulary, and meaning. The technique also promotes learner autonomy as students become more involved in organizing and constructing their own knowledge.

In conclusion, integrating mind mapping into English language teaching supports both the cognitive and affective domains of learning. It makes abstract linguistic concepts more accessible, promotes higher-order thinking, and increases student motivation and independence. Therefore, mind mapping stands out as an effective, adaptable, and engaging technique in teaching English skills.

## **2.6. Descriptive Text**

Descriptive texts are one genre in the functional grammar framework explained by Gerot and Wignell (1994). These texts are often used in education, especially in junior high school, to introduce students to factual and specific information about people, places, things, or phenomena. The main objective of descriptive texts is to present a clear and vivid picture of the subject so that readers can visualize or describe it accurately.

As noted by Gerot and Wignell (1994), the communicative purpose of a descriptive text is to describe a particular person, place, or thing. Rather than narrating events or persuading the audience, this genre aims to inform by elaborating the significant

attributes of the subject. The description is intended to be informative, allowing the reader to mentally construct the object or scene being discussed.

To fulfill its purpose, a descriptive text generally follows a conventional structure composed of two main elements:

- **Identification:** This part introduces and classifies the subject that will be described. It typically provides a general overview that sets the context for the description. For example, if the text is about “a traditional Javanese house,” the identification presents a brief introduction to the house before elaborating on its features.
- **Description:** This section elaborates on the specific characteristics of the subject, including its physical appearance, qualities, behaviors, or unique features. The information is typically presented in an organized way, moving from general features to more specific details.

In addition to its structure, a descriptive text is characterized by several distinctive language features that support its communicative function:

- The use of the simple present tense, as the text deals with factual and timeless information.
- The frequent use of adjectives to enhance vividness and specificity (e.g., a peaceful village, a massive wooden gate).
- The use of specific noun phrases that help the reader construct precise mental images (e.g., the old temple near the forest).
- The use of linking verbs and action verbs, where linking verbs (e.g., is, seems) attribute qualities, and action verbs (e.g., sits, stands) describe positioning or observable behaviors.
- The inclusion of sensory language, which engages the reader’s senses (sight, sound, touch, taste, smell) and deepens the descriptive quality of the text.

From the perspective of systemic functional grammar, descriptive texts frequently employ relational processes, especially attributive relational clauses, to assign attributes to participants (Gerot & Wignell, 1994, p. 208). For instance, in the clause "The flower is bright red and fragrant," the relational process links the subject to its characteristics. The genre also tends to involve specific participants and makes use of declarative sentences in the present tense to deliver factual information.

In the classroom, teaching descriptive texts through visual strategies such as mind mapping can significantly improve students' understanding and retention. Mind maps provide a visual framework for organizing descriptive elements, helping learners distinguish between general and specific information and understand the hierarchical relationships between ideas. This approach supports the nature of descriptive texts, which rely heavily on clarity, categorization, and detail.

In conclusion, descriptive text as conceptualized by Gerot and Wignell is a factual genre that encourages students to develop their observational, linguistic, and cognitive abilities. By combining genre-based instruction with visual aids like mind mapping, teachers can help students write more effectively and comprehend descriptive texts with greater depth and engagement. This integration is especially relevant in junior high school contexts, where learners benefit from guided scaffolding and structured representation of information.

## **2.7. Procedures of Teaching Reading through Mind Mapping Technique**

Teaching reading through the mind mapping technique involves a systematic three-phase instructional procedure that draws upon the cognitive and strategic principles of reading comprehension, particularly those emphasized by Grabe and Stoller (2011), such as activating background knowledge, strategic reading, and integrating information visually. This framework follows the pre-reading, while-reading, and post-reading stages to scaffold students' comprehension of descriptive texts.

### **1) Pre-reading Stage**

The pre-reading phase is designed to activate students' background knowledge and prepare them for the reading task. In this stage, the teacher introduces the theme or topic of the descriptive text by showing relevant pictures, asking leading questions, or providing key vocabulary words.

According to Grabe and Stoller (2011), building background knowledge and setting a purpose for reading are crucial at this stage. Therefore, the teacher may display a partially completed mind map on the board with the central theme (e.g., "My Favorite Animal" or "A Tourist Place") and ask students to predict supporting details that may appear in the text. Key vocabulary is also pre-taught, especially words that are central to understanding the text's content.

This stage engages students cognitively and emotionally by connecting the upcoming reading to their existing knowledge and interests.

## 2) While-reading Stage

In the reading phase, students read the text and fill in the mind map with supporting ideas as they read. The reading process is divided into manageable segments or paragraphs. After reading each section, students identify and note the main ideas and supporting information in the corresponding branches of the mind map.

This stage is in line with Grabe and Stoller's emphasis on strategic reading, specifically identifying main ideas, searching for specific information, and drawing conclusions. By mind mapping, students visualize the organization of information, which reinforces their understanding of the text's structure.

Teachers facilitate this process by demonstrating how to extract relevant information and place it appropriately in the mind map. Collaborative learning can also be integrated here, where students work in pairs or small groups to complete the map, encouraging peer support.

### 3) Post-reading Stage

In the post-reading phase, students think about and put together what they've learned from the text. They can use the mind map they've made to summarize the text, either verbally or in writing. This phase helps them check their understanding and encourages them to evaluate the main ideas they've gathered.

Grabe and Stoller (2011) highlighted the importance of integrating the information and using it for subsequent tasks. Therefore, students can be asked to present their mind maps to the class, compare them with their peers, or answer comprehension questions that focus on the five reading skills: identifying main ideas, understanding vocabulary in context, finding specific information, making inferences, and recognizing reference words.

Additionally, this stage allows teachers to assess students' comprehension through their visual representations and oral/written summaries.

By adopting this three-phase approach, teaching reading through mind mapping not only improves comprehension of descriptive texts but also develops students' reading strategies and motivation. It transforms reading from a linearly-oriented task into a visual and interactive experience, making it easier for students to organize, remember, and recall information meaningfully.

#### ***2.7.1 Assessing Reading***

Assessment of reading comprehension in this study is designed to evaluate how effectively students understand descriptive texts after being taught using the mind mapping technique. The reading assessment focuses on five key components of comprehension: main idea, vocabulary, specific information, inference, and reference, as aligned with Grabe and Stoller (2002) and Nuttall (2005).

To assess these skills objectively and reliably, a multiple-choice test is used both in the pre-test (T<sub>1</sub>) and post-test (T<sub>2</sub>). Each test consists of 25 items and is constructed

based on descriptive texts that are thematically similar but not identical to maintain fairness and test equivalency. The texts used in the test are accompanied by visuals or mind maps that simulate classroom reading activities, thus contextualizing the assessment within the instructional method being studied.

Each test item corresponds to one of the following reading sub-skills:

- a) Main Idea – identifying the central thought or focus of the text.
- b) Vocabulary – understanding word meanings based on context.
- c) Specific Information – locating explicit facts or details in the text.
- d) Inference – making logical conclusions from implicit information.
- e) Reference – identifying what pronouns or reference words refer to in the text.

One point is given for each right answer, and the student's overall reading comprehension level is determined by their total score. This style facilitates statistical analysis using pre- and post-intervention data in addition to efficient scoring.

To guarantee its validity and reliability, the test has undergone statistical analysis and pilot testing. To make the items suitable for the target population of eighth-grade junior high school students, they were updated based on difficulty and discrimination indices.

Reading comprehension test is an important tool for answering Research Question 1: “Does the use of mind mapping techniques in reading teaching have a significant impact on the reading comprehension of eighth grade junior high school students?” By analyzing students' pre-test and post-test scores, researchers can determine whether mind mapping techniques produce a statistically significant improvement in reading comprehension.

## **2.8. Previous Study**

Reading comprehension is widely believed to improve significantly when students are guided to visualize and organize the information they read. One technique that facilitates this process is mind mapping, which enables learners to structure and connect key ideas within a text in a visual format. Mohaidat (2018), in a study involving ninth-grade students in Jordan, found that students who were taught using electronic mind maps (iMindMap software) performed better in reading comprehension tests than those taught through conventional methods. This result indicates that electronic mind mapping is effective in enhancing students' reading comprehension.

Similarly, research conducted by Siriphanich and Laohawiriyanon (2010) revealed that EFL students at a university in Thailand demonstrated improved reading comprehension after implementing the mind mapping technique. In addition, students reported that they enjoyed the learning process more when using this method. These findings suggest that mind mapping serves not only as a cognitive tool to support comprehension but also as a means of creating a more effective and enjoyable learning experience.

In addition to enhancing comprehension, mind mapping is also considered to play a substantial role in supporting student engagement and learning motivation during reading activities. When learners are actively involved in constructing meaning especially through visual representations they are more likely to remain focused and emotionally connected to the learning material. A study by Samonlux and Yimwilai (2020) reported that university students who used electronic mind maps achieved higher post-test scores and felt more motivated during reading sessions. Furthermore, Liando, Dolongtelide, and Maru (2022) found that vocational high school students in North Sulawesi who were taught using the mind mapping technique demonstrated greater responsibility in their learning and showed higher enthusiasm throughout the lessons. These studies reinforce the idea that mind mapping not only improves students' academic performance but also contributes to the creation of a more engaging and student-centered classroom environment.

Learning motivation is considered as important as reading comprehension in language education, particularly among students who often face challenges related to interest and confidence in English subjects. Mind mapping has proven to be an effective strategy in this regard, as it encourages active participation and curiosity. Sari et al. (2021) demonstrated that the implementation of inquiry-based mind mapping positively contributed to students' critical thinking skills and motivation. In a related study, Feng, Alsager, Azizi, and Sarabani (2023) investigated Iranian EFL learners and found that those who applied the mind mapping technique exhibited increased motivation, better vocabulary retention, and a greater willingness to communicate in English. These findings affirm that mind mapping fosters both cognitive growth and emotional readiness, offering holistic benefits for EFL instruction.

Although there is enough evidence to support the claim that mind mapping can improve individual reading comprehension or learning motivation, research that explores both outcomes at the same time appears to be limited. Most existing studies focus on comprehension or motivation as separate variables, often in the context of higher education. For example, Sapitri, Rachmawati, and Surachmat (2019) carried out a study focusing on descriptive writing, in which mind mapping was found to increase student motivation. However, the study did not examine its impact on reading comprehension, leaving a gap in understanding the full potential of this technique. This highlights the need for further research that investigates the combined impact of mind mapping on comprehension and motivation, especially among junior high school students.

Based on the studies mentioned above, further research is needed on the dual role of mind mapping in improving reading comprehension and motivation in a more integrated manner. Descriptive texts, which require students to process detailed and explicit information, provide a suitable context for the application of mind mapping strategies. Therefore, this study aims to investigate the effectiveness of mind mapping techniques in simultaneously improving students' comprehension and motivation in

reading descriptive texts, particularly among eighth-grade students. It is hoped that the findings of this study can contribute to a deeper understanding of how visual learning tools can be optimized in English as a foreign language (EFL) classrooms to support cognitive and affective aspects of language learning.

### **2.9. Theoretical Assumption**

Based on the previous theoretical discussion, the researcher assumes that the application of mind mapping techniques during reading lessons will have two positive effects on eighth-grade junior high school students. First, by visually arranging main ideas and supporting details, mind mapping is expected to improve students' ability to recognize text structure, connect concepts, and remember key information, thereby improving their reading comprehension scores. Second, because this technique encourages the use of colors, images, and personal creativity, it is hoped that it will cultivate a stronger sense of autonomy and enjoyment, which, according to motivation theory, increases intrinsic motivation. In short, when mind mapping is introduced with clear guidance from teachers and sufficient practice time, the researcher estimates that students will understand English texts more effectively and feel more motivated to engage in reading activities.

### **2.10. Hypothesis**

Based on the theories and assumptions described above, the hypothesis of the research can be formulated as follows:

H1: There is a significant impact of using the mind mapping technique in teaching reading on students' reading comprehension at the eighth grade of junior high school.

H1: There is a significant impact of using the mind mapping technique in teaching reading on students' motivation to learn English at the eighth grade of junior high school.

Thus, the theories that have been discussed in this chapter include: the concept of reading, reading comprehension, reading motivation, the concept of mind mapping, mind mapping in English language teaching, Procedures of teaching reading through mind mapping technique, advantages and disadvantages of mind mapping technique, previous studies, theoretical assumption, and hypothesis.

### **III. METHODS**

This chapter discusses several points. It consists of research design, variables, data sources, instruments of the research, procedure of data collective, data analysis, and hypothesis testing.

#### **3.1. Research Design**

To capture measurable changes produced by the Mind-Mapping lessons, identical instruments are administered before and after the treatment. Comparing these pre- and post-test results provides the key evidence for answering Research Question 1 (reading comprehension) and Research Question 2 (learning motivation). The research design is therefore presented as follows.

#### **T1 X T2**

Notes:

- T1 :Pre-test (Reading Comprehension and Motivation Scale Before the Treatment)
- X :Treatment using Mind-Mapping Technique
- T2:Post-test (Reading Comprehension and Motivation Scale Afater the Treatment)

This course of action aims to find out the gap between T<sub>1</sub> and T<sub>2</sub> in order to answer Research Questions 1 and 2.

During this study, the researcher also investigates which aspects of reading comprehension and which facets of learning motivation improve the most after the implementation of the Mind-Mapping Technique in the single intact Grade-8 class.

### **3.2. Data Sources**

By specifying the population from which participants were drawn, explaining how an intact class was purposively selected, and clarifying why this class was pedagogically suitable, the study established a solid foundation for interpreting any pre-to-post improvements in reading comprehension and English learning motivation. The following subsections detailed these data sources and the rationale behind their selection:

#### ***3.2.1 Population***

The population of this research was the 8th grade students of SMP Muhammadiyah 3 Bandar Lampung in the academic year of 2025/2026, consisting of 32 students. These students were selected because the descriptive text was one of the main reading materials taught in the 8th grade English curriculum, and students at this stage were expected to develop their ability in reading comprehension through various strategies.

Moreover, students at this level were still in the process of building motivation toward learning English, making them ideal subjects for investigating the impact of learning techniques such as mind mapping. The use of mind mapping was considered appropriate for junior high school students due to its visual and structured format, which helped students understand the content and stay motivated in reading activities.

#### ***3.2.2 Sample***

The sample of this research was one class of 8th grade students, selected using a purposive sampling technique. The selection focused on students who:

- Were officially enrolled in the 8th grade of a junior high school.

- Demonstrated a general engagement in English learning activities, as observed by their teacher or reflected in class participation.
- Were present and available to participate throughout the entire research process, including the pre-test, treatment sessions, and post-test.

### **3.3. Data Collection Instrument**

A measurement tool was a tool used to measure both observed natural and social occurrences. To answer the research question, the researcher had two kinds of instruments, there are:

#### **a) Questionnaire**

This questionnaire's purpose was to find out how students felt about learning English reading through the Mind Mapping technique, particularly when applied to descriptive texts. It aimed to explore whether the use of Mind Mapping could enhance students' motivation and comprehension by helping them visualize information, organize ideas, and connect key concepts within the text. The questions functioned to gather information about students' experiences, engagement, and attitudes toward reading descriptive texts using visual learning tools, as well as their perceptions of how the technique influenced their understanding, interest, and confidence in learning English.

The questionnaire also sought to determine whether students found the Mind Mapping technique enjoyable, helpful, and motivating, and whether it contributed to improving their ability to comprehend descriptive texts more effectively. The findings from this survey were incorporated into instructional strategies and classroom reflections to support students' development in both reading comprehension and English learning motivation.

In this research, data were collected using a closed-ended questionnaire consisting of 20 statements adapted from Setiyadi (1999) and based on Self-Determination Theory

(Deci & Ryan, 2000). The items were designed to measure two main constructs: Intrinsic Motivation and Extrinsic Motivation. Students were asked to indicate their level of agreement with each statement according to their own learning experiences during the implementation of the Mind Mapping technique.

The questionnaire employed a 4-point Likert Scale to obtain participants' responses, as follows:

4 = Strongly Agree

3 = Agree

2 = Disagree

1 = Strongly Disagree

This rating scale enabled the researcher to quantify the students' motivation levels and to analyze any improvement in their attitudes toward English reading after the treatment using the Mind Mapping technique.

#### b) Reading Comprehension Test

To gauge students' level of reading comprehension, a test was carried out. This test aimed to evaluate their reading abilities, skills, and knowledge against a set benchmark, determining whether their performance met the required standard (Adom et al., 2020). A 30-question multiple-choice test was used to objectively measure reading comprehension before the try-out, and 25 items after the try-out. Each item prompted students to interpret, organize, or recall information that was spatially structured in a sample mind map presented alongside the passage. This method aligned with Nuttall's (2005) perspective that effective reading comprehension involved not only the extraction of information but also the ability to synthesize and organize it meaningfully.

The sub-skills assessed main idea, detail, inference, vocabulary, and purpose reflected the cognitive processes that mind mapping was designed to support. Nuttall

emphasized that comprehension was enhanced when learners could visualize relationships between concepts, making mind mapping an effective tool for fostering deeper understanding and engagement with the text.

Therefore, researchers are required to verify the validity and reliability of these instruments. The validity and reliability of this study are as follows:

### ***3.3.1 Validity***

Setiyadi (2018) stated that validity confirms that a tool or test accurately measures the specific thing it's designed to measure.

#### ***3.3.1.1 Content Validity***

This study examined the effectiveness of using the Mind Mapping technique to enhance students' reading comprehension and learning motivation. The research involved the selection of descriptive texts from the Grade VIII Merdeka Curriculum, the integration of mind maps into reading lessons, the development of reading comprehension tests, and the design of motivation questionnaires to measure students' engagement. Instructional materials and lesson plans were implemented by incorporating the Mind Mapping technique throughout the learning process. Pre-tests and post-tests were administered to compare students' performance before and after the treatment, focusing on both cognitive (reading comprehension) and affective (learning motivation) outcomes. This framework aimed to determine the effectiveness of the Mind Mapping technique in improving students' understanding of descriptive texts and enhancing their motivation to learn English. The results provided empirical evidence supporting the use of visual learning strategies in EFL classrooms and offered practical insights for teachers seeking innovative ways to foster students' engagement and comprehension in reading activities.

### 3.3.1.2 Construct Validity

The constructs include reading comprehension, which refers to students' ability to understand and interpret descriptive texts through several cognitive processes. These processes cover determining the main idea, making inferences, understanding vocabulary in context, identifying references, and finding specific detailed information. Each aspect reflects the essential sub-skills of reading comprehension as suggested by Nuttall (2005) and Grabe & Stoller (2002).

In this research, the writer used a multiple-choice reading comprehension test consisting of 25 items to assess students' understanding of descriptive texts. The test items were constructed and distributed according to the table of specification to ensure content validity and balanced representation of each sub-skill. The table below illustrates the distribution of questions and percentages for each aspect of reading comprehension.

Table 3. 1 Five aspects of reading comprehension test

<b>NO</b>	<b>Topic</b>	<b>Number of questions</b>	<b>Percentage</b>
1.	Determining the main idea	1, 6, 11, 16, 21	20%
2.	Making inferences	2, 7, 12, 17, 22	20%
3.	Analyzing Vocabulary in Context	3, 8, 13, 18, 23	20%
4.	Identifying references	4, 9, 14, 19, 24	20%
5.	Finding specific details information	5, 10, 15, 20, 25	20%

### 3.3.1.3 Face Validity

Face validity in this study was established by asking experts specifically English lecturers and the classroom English teacher to carefully review all research instruments, including the 25 reading comprehension test items and the 20-item

motivation questionnaire. The experts examined whether the language used in both instruments was clear, age-appropriate, and easily understood by eighth-grade students. They also evaluated the format, layout, and instructions of the items to ensure that the questions were not confusing and that each item corresponded to the intended construct (reading comprehension sub-skills and motivation dimensions). This review process was conducted before administering the try-out and classroom implementation. Although face validity is inherently subjective, the experts' judgment provided important initial evidence that the instruments appeared suitable, readable, and appropriate for measuring students' reading comprehension and motivation in the context of mind mapping instruction.

### 3.3.2 Reliability

According to Setiyadi (2006), reliability was the degree to which a measurement can be consistently made of similar subjects at different periods and yet produce the same results. To measure the reliability of test, the researcher used Cronbach's Alpha formula as follows:

$$r_x = \left( \frac{n}{n-1} \right) \left( 1 - \frac{\sum a_t^2}{a_t^2} \right)$$

Where:

$r_x$	: the reliability of the questionnaire/test
$n$	: total of questions
$\sum a_t^2$	: total of score items
$a_t^2$	: total of variants

For assessing unidimensionality and scale reliability following Cronbach's alpha coefficients. The result was shown on Appendix 5. The result of reading comprehension text reliability was shown that reliability was 0.869 which meant the result  $> 0.60$  so that the test was reliable. When measurements were made and under the same conditions each time, the reading comprehension test was considered reliable.

### 3.3.3 Level of Difficulty

The level of difficulty represents to which test questions are considered easy or difficult from the learner's perspective. Student test results were ranked from highest to lowest. The researcher used the following formula to assess the level of difficulty:

$$LD = \frac{U+L}{N}$$

Where:

LD = Level of Difficulty

U : The number of upper group who answer correctly

L : The number of lower group who answer correctly

N : The total number of students in upper and lower groups  
The criteria are:

LD < 0.30 = difficult

LD = 0.31 – 0.70 = average

LD > 0.71 1.00 = easy

(Shohamy,1985)

Table 3.2 Level of Difficulty

NO	Number of Item Test	Computation	Criteria
1.	6, 9, 16, 19, 23, 24	<0.30	difficult
2.	1, 2, 3, 4, 5, 8, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22	0.31 - 0.70	average
3.	6, 7, 25	>0.70	easy

The test was categorized into three levels of difficulty based on the computation criteria. The first category, labelled “Difficult,” consisted of 6 items (numbers 6, 9, 16, 19, 23, and 24) with a computation value less than 0.30. The second category, termed

“Average,” included 17 items (numbers 1, 2, 3, 4, 5, 8, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, and 22), where the computation values ranged from 0.31 to 0.70. Finally, the “Easy” category encompassed 3 items (numbers 6, 7, and 25) with a computation value greater than 0.70.

This distribution indicated that most of the items in the test were of average difficulty, while a smaller proportion were categorized as easy and difficult, ensuring that the test covered a balanced range of difficulty levels. The combination of different difficulty levels helped provide a comprehensive measurement of students’ abilities. (Data in Appendix 4).

#### ***3.4.4 Discrimination Power***

The purpose of discrimination power is to determine between the low and high levels of students on the test. The students of the try-out class are divided into two groups: higher and lower students. The higher students are those who answer the questions correctly, and the lower students are those who answer the questions incorrectly. To determine the discrimination power, the researcher uses the following formula.

$$DP = \frac{U - L}{1/2 N}$$

Where:

DP = discrimination power

U = the proportion of upper group students

L = the proportion of lower group students

N = total number of students

The criteria are as follow:

0.00-0.20	= poor
0.21-0.40	= satisfied
0.41-0.70	= good
0.71-1.00	= excellent
Negative	= bad items (should be omitted)

(Heaton, 1975)

Based on the results, it was determined that 1 item was categorized as poor, 9 items as satisfactory, 15 items as good, and no items were categorized as excellent. To enhance the reliability of the test, the poor item was removed. The remaining items, categorized as satisfactory and good, were carefully selected and revised. Consequently, the total number of test items was reduced from 30 to 25 questions, consisting of the most reliable and representative items. These selected questions ensured a balanced level of difficulty and content coverage, making the final test more valid and effective for measuring students' performance (Data in Appendix 4).

### **3.4. Data Analysis**

The main purpose of data analysis in this study was to find out whether there was a significant improvement in students' reading comprehension and English learning motivation after being taught using the Mind Mapping Technique. This was done by comparing students' scores before ( $T_1$ ) and after ( $T_2$ ) the treatment using simple and effective statistical procedures.

#### **Step 1: Scoring the Reading Tests and Questionnaires**

##### **✓ Reading Comprehension Test**

- The reading comprehension test consists of 25 multiple-choice items based on descriptive texts.

- Each question assesses one of five reading sub-skills:

1. Identifying the main idea
2. Understanding vocabulary in context
3. Finding specific information
4. Making inferences
5. Recognizing reference words

- Scoring:

1. Each correct answer is awarded 1 point
2. Maximum score: 25 points

- The total score reflects students' reading comprehension performance and is used to compare pre-test and post-test outcomes.

✓ **Motivation Questionnaire**

- The motivation questionnaire contains 20 items:

1. 20 closed-ended items using a 4-point Likert scale

- The 20 closed-ended items are grouped into three key categories:

1. Intrinsic Motivation
2. Extrinsic Motivation

- Likert Scale Scoring:

- a) Strongly Agree = 4
- b) Agree = 3
- c) Disagree = 2
- d) Strongly Disagree = 1

- The total score from the 20 items indicated the level of students' motivation to learn English reading and was used to assess changes between the pre-test and post-test.

### **Step 2: Calculating the Mean Scores**

After all the scores were collected, the average (mean) score of the whole class was calculated for both the pre-test and the post-test. This helped the researcher see whether there was an increase after the use of the Mind Mapping Technique.

Formula:

$$Md = \frac{\sum d}{N}$$

With the following explanation:

Md = mean difference,

$\sum d$  = total of all individual score differences (post-test – pre-test),

N = Number of students

### **Step 3: Measuring the Improvement**

To know how much improvement happened, the following formula is used:

$$I = M2 - M1$$

With the following explanation:

I = the improvement result,

M2 = the average score of the post-test

$M_1$  = the average score of the pre-test

### **3.5. Data Treatment**

Concerning Setiyadi (2006), using the Paired Sample T-test to examine the hypotheses in this research had three main assumptions, which can be illustrated as follows:

- a. The data were in the form of interval data.
- b. The data were taken from a purposively selected sample within the population.
- c. The data were normally distributed.

In this study, the normality test was conducted to determine whether the students' reading comprehension and motivation scores were normally distributed before performing the Paired Sample T-test. The researcher used the Shapiro–Wilk test in SPSS, as the number of participants was less than 50, making it appropriate for small sample analysis.

The hypotheses of the normality test were formulated as follows:

$H_0$  : The distribution of the data was normal.

$H_1$  : The distribution of the data was not normal.

### **3.6. Hypothesis Testing**

Hypothesis testing was employed to evaluate the acceptance of the proposed hypotheses in this research. The hypotheses were examined using statistical analysis, specifically the Paired Sample T-test through the Statistical Package for the Social Sciences (SPSS) program. This statistical test was applied to determine whether there was a significant difference between students' pre-test and post-test scores in both reading comprehension and English learning motivation after being taught through the Mind Mapping Technique.

The Paired Sample T-test served as the main statistical method in this study because it measured variations in performance for the same group of participants across two different time points (before and after the treatment). The researcher used the following decision rule:

$$H_1 = \text{Sig.} < 0.05$$

Where:

- If the Sig. (two-tailed) value was lower than 0.05, then  $H_0$  was rejected and  $H_1$  was accepted.
- If the Sig. (two-tailed) value was higher than 0.05, then  $H_0$  was accepted and  $H_1$  was rejected.
- $H_1$ : There was a significant impact of using the Mind Mapping Technique in teaching reading on students' reading comprehension at the eighth grade of junior high school.
- $H_1$ : There was a significant impact of using the Mind Mapping Technique in teaching reading on students' motivation to learn English at the eighth grade of junior high school.

This chapter discussed the research design, variables, data sources, instruments, data collection, data analysis, data treatment, and hypothesis testing in order to provide a comprehensive understanding of the research procedures and methods employed in this study.

## **V. CONCLUSION AND SUGGESTION**

This chapter presents the conclusions drawn from the findings of this research and provides suggestions for English teachers and future researchers who wish to apply the mind mapping technique in teaching reading comprehension and enhancing students' learning motivation.

### **5.1 Conclusion**

Based on the findings and discussion presented in the previous chapter, several conclusions can be drawn regarding the impact of the mind mapping technique on students' reading comprehension and learning motivation. First, the implementation of the mind mapping technique significantly improved students' reading comprehension. The comparison between the pre-test and post-test results showed a noticeable increase in students' scores after the treatment. The visual and structured nature of mind mapping helped students organize ideas, identify the main ideas and supporting details, and understand the relationships among concepts within the text. As a result, students were able to comprehend descriptive texts more effectively, indicating that mind mapping is an effective technique for improving reading comprehension among eighth-grade students.

Second, students' learning motivation did not show a statistically significant improvement after the implementation of the mind mapping technique. Although the descriptive analysis of the motivation questionnaire indicated slight changes in several items, the overall pattern of students' responses before and after the treatment remained relatively similar. This suggests that the short duration of the treatment

sessions and the relatively stable motivational attitudes of the students may have contributed to the absence of a significant change in motivation.

Third, the findings indicate that the mind mapping technique is more effective in supporting students' cognitive development, particularly in organizing and processing reading materials, rather than producing immediate changes in students' learning motivation. While the technique helped students understand and structure information from descriptive texts more clearly, motivation tends to develop gradually and may require longer exposure, continuous reinforcement, and additional instructional strategies beyond the limited treatment sessions conducted in this study.

## **5.2 Suggestion**

Based on the findings of this research, several suggestions are proposed for English teachers and future researchers. For English teachers, it is recommended to apply the mind mapping technique in teaching reading comprehension because it can assist students in organizing information, identifying key ideas, and understanding the structure of descriptive texts more effectively. Teachers should also provide clear guidance when introducing mind mapping activities, especially for students who are not familiar with visual learning strategies. Providing partially completed mind maps or guiding examples may help students who have difficulty organizing information independently. In addition, teachers may combine mind mapping with interactive learning activities such as group discussions, presentations, or collaborative tasks in order to increase students' engagement and participation during reading lessons.

For future researchers, it is suggested to explore the application of mind mapping in different English language skills or language components, such as writing, speaking, or vocabulary learning, in order to examine its broader pedagogical benefits. Future studies are also recommended to conduct research with a longer treatment duration to investigate whether students' motivation can improve when they are exposed to the technique for a longer period of time. Moreover, involving a larger number of

participants or students from different grade levels may provide more comprehensive data and allow researchers to draw stronger conclusions regarding the effectiveness of the mind mapping technique in English language learning.

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